AMENDMENTS TO THE SPECIFICATION

[0004] However, the characteristic of the laser diode varies with the environment temperature and time. During the recording process, as the recording time increases, the temperature of the laser diode increases. Namely, under the condition that the driving signals inputted to the laser diode are the same, the laser diode outputs optical signals having different power due to different temperature. When the laser diode is aged, the optoelectronic characteristic of the laser diode ~~maybe~~ may change. Therefore, a power control circuit for compensating power variation due to change of the optical characteristic of the laser diode is highly required. If the bias power is not compensated, the laser diode may completely turn off during certain periods, and to turn on the laser diode again requires a larger current or a longer time.

[0018] Fig. 5 schematically shows a block diagram of a power control circuit for[[an]] a recordable optical disk drive according to the first embodiment of the invention;

[0034] Similarly, the bottom envelope acquiring circuit 512 is similar to the peak envelope acquiring circuit 510, which a negative half-wave rectifier 702 is used for replacing the positive half-wave rectifier 702 in Fig. 7 to get the bottom envelope signal BE. Although the peak envelope acquiring circuit 510 is used for the description, [[but]] it is not to limit the scope of the invention. Any circuit capable of detecting the envelope formed by the positive peaks and the envelope formed by the negative peaks of the power sampling signal PI can serve as the envelope acquiring circuit of the invention. In addition, the application of the invention is not only the recordable optical disk drives, but also other optical disk drive systems.

Moreover, the laser diode of the invention can be replaced by any other type of light emitting diodes.

[0035] Fig. 9 schematically shows a block diagram of a power control circuit for [[an]] a recordable optical disk drive according to the second embodiment of the invention. A laser diode D3 receives a driving signal outputted from a laser diode driving circuit 902 to generate a corresponding optical signal. A photodiode D4 is used for sensing the optical signal emitted from the laser diode D3 to generate a corresponding power sampling signal PI. The power sampling signal PI is transmitted to an erase-period sample-and-hold circuit 904, a peak envelope sample-and-hold circuit 904 and a bottom envelope sample-and-hold circuit 908, respectively.